

REMARKS

Summary of the Office Action

Claims 4 and 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,982,629 to *Shoji et al.* ("*Shoji*").

Summary of the Response to the Office Action

Applicants amend claims 4 and 7, and add claims 9 and 10. Accordingly, claims 4, 7, and 9-10 are presently pending.

All Claims Comply With 35 U.S.C. § 103(a)

Claims 4 and 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Shoji*. Applicants respectfully traverse the rejection for at least the following reasons.

The Office Action has not established a *prima facie* case of obviousness at least because *Shoji*, whether alone or in combination, fails to teach or suggest all the recited features of newly amended independent claim 4. Independent claim 4 recites, in part, "the circuit board is a square-shaped rigid-type printed wiring board made of glass epoxy resin; wherein the insulating layer is formed so as to cover a peripheral edge of the plated layer so that the surface of the circuit board and at least one of the surface of the base layer are not exposed externally, and the insulating layer is made of epoxy resin; and a step of mounting an electronic component after the step of forming the insulating layer, the step of mounting the electronic component includes mounting the electronic component on given positions of the circuit board by a solder reflow process." *Shoji* fails to teach or suggest at least these features of claim 4.

Shoji fails to teach or suggest that the insulating layer is made of epoxy resin. *Shoji* discloses an electrode structure of a semiconductor element, while the present invention discloses a method of manufacturing a circuit board used in a battery pack. *Shoji* discloses that SiO_2 or SiN_4 is used as material for an insulating layer. Nowhere does *Shoji* teach that glass epoxy resin is used for a circuit board. When the insulating layer made of SiO_2 or SiN_4 (as disclosed in *Shoji*) is provided on a circuit board made of glass epoxy resin (as in the present invention), the insulating layer will peel off from the circuit board due to a weak affinity between SiO_2 , SiN_4 and the glass epoxy resin.

Although the Office Action asserts that the insulating layer is made of epoxy resin as disclosed in Fig. 9 and col. 11, lines 38-39 of *Shoji*, in fact, *Shoji* does not teach or suggest that the insulating layer is made of epoxy resin. In col. 11, lines 38-39 of *Shoji*, it is described that “the insulating material is one member selected from among SiO_2 , SiN_4 , glass and polyimide resin.” Thus, epoxy resins are not taught or suggested. *Shoji* also does not teach or suggest a circuit board, much less a glass epoxy resin circuit board. In the present invention, since epoxy resin is employed as an insulating layer, the insulating layer does not peel off from the circuit board made of glass epoxy resin. Thus, Applicants believe that *Shoji* fails to disclose the technical features of the present invention with respect to epoxy resin provided on glass epoxy resin.

Further, the Office Action asserts that it would have been an obvious matter of design choice to a person of ordinary skill in the art to have substituted an insulating layer made of SiO_2

or SiN₄ with an insulating layer made of epoxy resin to be provided on the glass epoxy resin circuit board. Applicants respectfully disagree. Neither *Shoji* nor the alleged design choice of a person of ordinary skill in the art makes obvious the present invention. Therefore, the Office Action fails to provide a basis that the insulating layer is made of epoxy resin or that the non-existent circuit board of *Shoji* is made of epoxy resin, much less glass epoxy resin. Thus, the rejection of claim 4 should be withdrawn.

As pointed out in M.P.E.P. § 2143.03, all the claimed limitations must be taught or suggested by the prior art to establish *prima facie* obviousness of a claimed invention. Because *Shoji*, whether taken alone or in combination, fails to teach or suggest each feature of newly amended independent claim 4, the rejection under 35 U.S.C. § 103(a) should be withdrawn.

Claims 7 and 9 depend from independent claim 4. Accordingly, claims 7 and 9 are also allowable because of the additional features they recite and the reasons stated above. In view of the above, the present invention is patentable over the combination of *Shoji* and knowledge of one of ordinary skill in the art at the time the invention was made.

New Claims

Applicants respectfully request allowance of dependent claim 9, which depends from newly amended independent claim 4. The claim is allowable insofar as it recites the patentable combinations of features recited in its base claim 4, as well as reciting additional features that further distinguished over the applied prior art. Accordingly, in view of the above amendments, claim 9 is allowable and pending for further consideration.

Applicants also respectfully request allowance of independent claim 10. Claim 10 is allowable insofar as it also recites the patentable combinations of features previously discussed. Accordingly, in view of the above, claim 10 is also allowable and pending for further consideration.

CONCLUSION

In view of the foregoing, Applicants respectfully request entry of the amendments to place the application in clear condition for allowance or, in the alternative, in better form for appeal. Should the Examiner feel that there are any issues outstanding after consideration of the response, the Examiner is invited to contact the Applicants' undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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